

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Currently amended) A composite surgical implant comprising a planar sheet of a thermoplastic resin having a top surface and a bottom surface, and a surgical grade metal mesh comprising bridges separated by interstices, the mesh embedded in the sheet of resin such that resin is formed around at least a portion of the mesh, and in that portion, the resin fills the interstices of the mesh and is in contact with all surfaces of the mesh, wherein the contained therein, and said implant is able to be bent or displaced by manipulation by hand, wherein upon the displacement, of said implant, said the implant will generally maintain the shape to which it has been displaced.

2. (Currently amended) The implant recited in claim 1 wherein said the metal comprises titanium.

3. (Currently amended) The implant recited in claim 1 wherein said the top surface further comprises a smooth barrier surface.

4. (Currently amended) The implant recited in claim 3, wherein said the bottom surface comprises a smooth barrier surface.

5. (Currently amended) The implant recited in claim 3 wherein ~~said~~ the bottom surface comprises a porous surface.

6. (Currently amended) The implant recited in claim 5 wherein ~~the~~ pores of ~~said~~ the porous surface are sized to allow fibrovascular ingrowth.

7. (Currently amended) The implant as recited in claim 1 wherein ~~said~~ the thermoplastic resin comprises polyethylene.

8. (Currently amended) The implant as recited in claim 5 wherein ~~said~~ the porous surface comprises a high density polyethylene.

9. (Currently amended) The implant as recited in claim 1, further comprising at least one porous surface[s] to allow for fibrovascular ingrowth.

10. (Original) The implant recited in claim 1 further comprising means for attachment to bone.

11. (Currently amended) The implant as recited in claim [9] 10 wherein said means comprise at least one opening[s] in ~~said~~ the mesh that will receive and engage the head of a surgical screw or surgical bone anchor.

12. (Previously Presented) A method of making a surgical implant comprising placing a metallic mesh material in the bottom of a mold, introducing thermoplastic resin fines into said receptacle to allow said fines to fill the bottom of said mold and the interstitial spaces of the mesh, placing a sheet of thermoplastic resin over said fines and said mesh, placing a mold top over said sheet and applying heat and pressure to components contained in said mold to allow said fines to partially melt and to fuse to one another, whereby an implant is constructed having a smooth barrier surface and an opposite porous surface.

13. (Previously Presented) The method of making an implant as recited in claim 12 wherein said first step comprises placing a thin sheet on the bottom surface of the cavity of said mold, whereby the implant created comprises barriers on opposite sides of said mesh.

14. (Currently amended) A method of reconstruction of a bone defect comprising,

(a) bending providing a surgical implant having (i) a top and bottom surface comprised of thermoplastic resin and (ii) a metallic mesh comprising bridges separated by interstices, the mesh embedded in the sheet of resin such that resin is formed around at least a portion of the mesh, and in that portion, the resin fills the interstices of the mesh and is in contact with all surfaces of the mesh; contained therein,

(b) providing a fastener;

- (c) bending the surgical implant to conform to the profile of said the defect, and
(d) mechanically attaching said the implant to bone in proximity with said defect using the fastener.

15. (Currently amended) The method of reconstruction recited in claim 14 wherein said the defect is in a human.

16. (Currently amended) The method of reconstruction recited in claim 14 wherein said the defect is on the cranium.

17. (Currently amended) The method of reconstruction recited in claim 14 wherein said the defect is in the orbit.

18. (Currently amended) The method of reconstruction recited in claim 17 wherein said the implant further comprises a top smooth barrier surface and a bottom porous surface and said the implant is positioned in said the orbit with said the top smooth barrier surface oriented toward the orbit.

19. (Currently amended) The method of reconstruction as recited in claim 14 wherein said securing the attaching step comprises introduction of mechanical fasteners through said the mesh of said the implant and into said the bone tissue.

20. (Currently amended) The method of reconstruction as recited in claim 19 wherein said the mechanical fasteners comprise surgical screws.

21. (Currently amended) The method of reconstruction recited in claim 14 further comprising a step of cutting said the implant to conform to the shape of said the defect.

22. (Currently amended) A surgical implant comprising a ~~planar~~ sheet of polyethylene having a top surface and a bottom surface and a surgical grade metal mesh contained therein such that the polyethylene fills spaces between the mesh, wherein the top surface and the bottom surface comprise porous polyethylene with pores that are sized between 20-500 microns, and wherein the implant is able to be bent or displaced by manipulation by hand such that the implant will generally maintain the shape to which it has been displaced.

23. (Currently amended) A surgical implant comprising a ~~planar~~ sheet of polyethylene having a top surface and a bottom surface and a surgical grade metal mesh contained therein such that the polyethylene fills spaces between the mesh, wherein the top surface comprises a barrier surface of polyethylene and the bottom surface comprises porous polyethylene with pores that are sized between 20-500 microns, and wherein the implant is able to be bent or displaced by manipulation by hand such that the implant will generally maintain the shape to which it has been displaced.

24. (New) The implant recited in claim 1, wherein the thermoplastic resin is a porous resin throughout the implant.

25. (New) The implant of claim 22, wherein the polyethylene is porous throughout the implant.